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10/603,026	06/24/2003	Torsten Niederdrank	P03,0226	2603

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EXAMINER

PHILLIPS, FORREST M

ART UNIT	PAPER NUMBER
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2837

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/603,026

Applicant(s)

NIEDERDRANK ET AL.

Examiner

Forrest M. Phillips

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-31 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/31/03
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the means by which the, attachment arrangement of the module to the hearing aid processor recess, is fixedly connected, detachably connected, and made to damp vibrations, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: Description of the preferred embodiments, second paragraph spanning pages 6 and 7, on page seven line 4 there appears to be a typographical error "... is connected with plug contacts 27." Examiner considers in light of the drawings and later use of reference number 27, this sentence should correctly read "... is connected with plug contacts 26" as this contact is labeled 26 in figure and reference numeral 26 is not mentioned in the specification.

Appropriate correction is required.

Claim Objections

Claim 17 is objected to because of the following informalities: Examiner considers the meaning of claim 17 " a hearing signal processor having a recess in which said module is received" to mean that the processor and the module combine in a male female plug and socket arrangement rather than the module being entirely inside of the hearing processor. The claim in view of the specification and drawings has been treated as such.

Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Examiner in light of specification and drawings does not consider claim 18 "said hearing processor comprises a mounting for receiving said module" as limiting to claim 17 " ... in which

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said module is received, said module being mechanically and electrically connected to said hearing aid signal processor".

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 26-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification and drawings do not disclose how the attachment arrangement is made to be fixedly connected, detachably connected or connected in a way to dampen vibrations.

Claims have been treated as best understood by examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 3,8-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti et al (US5881159) in view of Goa et al (US20050163331).

With respect to claim 1 Aceti discloses an acoustic module (12 in figure 1) for a hearing aid device comprising: a unit adapted for insertion as a module (12 in figure 1) in the hearing aid device, said unit comprising a precombined acousto-electrical transducer (18 in figure 1) and an electro-acoustical transducer (22 in figure 1), said acousto-electrical transducer and said electro-acoustical transducer having feedback associated therewith (Column 2 lines 12-28). While it is not expressly stated that the transducers have an associated feedback, such a feedback is inherent.

Aceti does not disclose a module signal-processing unit for suppressing said feedback.

Gao discloses (Figure 4) feedback-canceling circuitry for use in a hearing aid.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the feedback canceling circuitry of Gao for the module of Aceti, to provide less distortion and improve quality of sound (paragraph 9 of Gao.)

With respect to claim 2 Aceti further discloses wherein said unit comprises a carrier structure (26 in figure 1) to which said acousto-electrical and said electro-acoustical transducers are connected.

With respect to claim 3 Aceti discloses the use of a housing (14 in figure 1) containing the module, transducers and associated electrical components included.

With respect to claim 8 Aceti further discloses further comprising an attachment arrangement (17 in figure 2) adapted to attach said unit in said hearing aid device.

With respect to claims 9-11 It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to

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so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138.

With respect to claim 9 Aceti further discloses wherein said attachment arrangement is adapted to fixedly connect said unit in said hearing aid device (column 3 lines 1-6, and column 4 lines 30-35). Examiner considers that as the hearing aid is intended to be set to the needs of a given patient and disposed of as a unit the arrangement allows the unit to be adapted to be fixedly attached.

With respect to claim 10 Aceti discloses the invention as claimed except wherein the attachment arrangement is adapted to detachably connect said unit in said hearing aid device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the attachment arrangement to allow for the unit to be detachably connected to allow for an exchange of module if the user desired a different response than was selected by the audiologist (refer to column 4 lines 1-15).

Further more it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

With respect to claim 11 Aceti discloses the attachment arrangement, being part of the housing (refer to paragraph that extends from column 2 line 64 to third column line 5), being constructed from a flexible plastic material. Flexible plastic materials are capable of damping vibrations.

With respect to claim 12 Goa further discloses wherein said module signal-processing unit suppresses feedback between said acousto-electrical transducer and said electro-acoustical transducer (paragraphs 05, 9, figure 4).

With respect to claim 13 Aceti discloses wherein the hearing aid device comprises a hearing aid signal-processing unit (20 in figure 1) and wherein said unit is adapted for connection to said hearing aid signal-processing unit.

With respect to claim 15 Goa further discloses wherein said module signal-processing unit suppresses feedback between said acousto-electrical transducer and said electro-acoustical transducer (paragraphs 05, 9, figure 4).

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao as applied to claim 1 above, and further in view of DE 198 52 758.

With respect to claims 4-6 Asceti in view of Gao discloses the invention as claimed except wherein the acousto-electrical transducer comprises a directional microphone, Asceti in view of Gao also fails to disclose a plurality of microphones.

'758 disclose microphones forming a system mounted in such a way as to improve the directional characteristic.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of '758 to use a plurality of directional microphones with the hearing aid module of Aceti as modified to provide the wearer with the ability to direct their hearing and focus on for example someone speaking to them.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao as applied to claim 1 above, and further in view of Klope (US20030070868).

With respect to claim 7 Aceti in view of Gao discloses the invention as claimed except wherein said unit comprises vibration-damping materials.

Klope discloses a vibration damping material (see figure 3 and paragraph 23).

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the damping material of Klope for the module of Aceti as modified to prevent unwanted vibration (paragraph 1).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Goa as applied to claim 13 above, and further in view of DE3223809.

With respect to claim 14 Aceti in view of Gao discloses the invention as claimed except wherein said unit comprises plug contacts adapted to connect said unit to said hearing aid signal processing unit.

'809 disclose the use of a plug and socket arrangement to connect a signal-processing component of a hearing aid with remaining components.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of '809 to use a plug and socket arrangement for the hearing aid signal processing unit if Aceti as modified to provide a means to connect the processing unit to the module without the need for solder.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao as applied to claim 1 above, and further in view of DE 195 45760.

With respect to claim 1 Aceti as modified discloses the invention as claimed except wherein said unit comprises shielding against external electromagnetic fields.

'760 disclose a hearing aid with shielding against external electromagnetic fields.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of '760 to shield a hearing aid from external electromagnetic fields with Aceti as modified due to the negative effects of external electromagnetic fields on hearing aid devices.

Claims 17-20, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao and DE3223809.

With respect to claims 17 and 18 Aceti discloses a hearing aid device comprising:

A module (12 in figure 1) comprising a precombined acousto-electrical transducer (18 in figure 1) and electro-acoustical transducer (22 in figure 1); and a hearing aid signal processor (20 in figure 1); said module being mechanically and electrically connected to said hearing aid signal processor and said hearing aid signal processor processing signals between said acousto-electrical and electro-acoustical transducers dependent upon hearing impairment of a user of the hearing aid device (column 4 lines 1-12).

Aceti does not disclose a module signal processor for suppressing feedback associated with said transducers and said hearing aid signal processor having a recess therein in which said module is received.

Gao discloses (Figure 4) feedback-canceling circuitry for use in a hearing aid.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the feedback canceling circuitry of Gao for the module of Aceti, to provide less distortion and improve quality of sound (paragraph 9 of Gao.)

Aceti in view of Gao does not disclose wherein the hearing processor having a recess therein in which said module is received.

'809 discloses the use of plug and socket type connections for hearing aid components.

At the time of the invention it would have been obvious to one of ordinary skill in the art to apply the plug and socket type connections as taught by '809 with the hearing aid device of Aceti as modified to provide a mechanical and electrical fastening means that does not require solder. Further more it would have been obvious to have the female component of the plug and socket fastener, the socket, be the processor as the connection functions the same in either configuration.

With respect to claim 19 Aceti further discloses wherein said unit comprises a carrier structure (26 in figure 1) to which said acousto-electrical and said electro-acoustical transducers are connected.

With respect to claim 20 Aceti discloses the use of a housing (14 in figure 1) containing the module, transducers and associated electrical components included.

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With respect to claims 25-28 DE'809 discloses an attachment arrangement namely a plug and socket type connection, which would as described in rejection of claim 17, attach said module in said recess. It would have been obvious to one of ordinary skill in the art that a plug and socket type connector could be adapted to be fixedly attached, removably attached or made in such a way as to damp vibrations in the connection.

With respect to claim 29 Gao further discloses wherein said module signal-processing unit suppresses feedback between said acousto-electrical transducer and said electro-acoustical transducer (paragraphs 05, 9, figure 4).

With respect to claim 30 DE '809 specifically discloses the use of plug and socket connectors (abstract).

Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao and '809 as applied to claim 17 above, and further in view of DE 19852758.

With respect to claims 21-23 Aceti in view of Gao discloses the invention as claimed except wherein the acousto-electrical transducer comprises a directional microphone, Aceti in view of Gao also fails to disclose a plurality of microphones.

'758 discloses microphones forming a system mounted in such a way as to improve the directional characteristic.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of '758 to use a plurality of directional microphones

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with the hearing aid module of Aceti as modified to provide the wearer with the ability to direct their hearing and focus on for example someone speaking to them.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao and DE '809 as applied to claim 17 above, and further in view of Klope.

With respect to claim 24 Aceti in view of Gao and De'809 discloses the invention as claimed except wherein said module comprises vibration-damping materials.

Klope discloses the use of vibration damping materials in a connection of a hearing aid (see figure 3 and paragraph 23).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Klope to use a vibrations damping material with the module of Aceti as modified to prevent unwanted vibrations (paragraph 1).

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aceti in view of Gao and '809 as applied to claim 17 above, and further in view of '760.

With respect to claim 1 Aceti as modified discloses the invention as claimed except wherein said unit comprises shielding against external electromagnetic fields.

'760 discloses a hearing aid with shielding against external electromagnetic fields.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of '760 to shield a hearing aid from external electromagnetic fields with Aceti as modified due to the negative effects of external electromagnetic fields on hearing aid devices.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Listed on form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Forrest M. Phillips whose telephone number is 5712729020. The examiner can normally be reached on Monday through Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 5712721988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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FP


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